

+3 M A D  
1 CACCGGCGAA GGAGGATCGA ATTCCTGCAG CCCGCTATCT GCAGGCCGCC ACCATGGCCG  
GTGGCCGCTT CCTCCTAGCT TAAGGACGTC GGGCGATAGA CGTCCGGCGG TGGTACCGGC  
+3 D Y L I S G G T S Y V P D D G L T A Q Q L  
61 ACTACCTGAT TAGTGGGGGC ACGTCTACG TGCCAGACGA CGGACTCACA GCACAGCAGC  
TGATGGACTA ATCACCCCGG TGCAGGATGC ACGGTCTGCT GCCTGAGTGT CGTGTGCTCG  
+3 L F N C G D G L T Y N D F L I L P G Y I D  
121 TCTTCAACTG CGGAGACGGC CTCACCTACA ATGACTTTCT CATTCTCCCT GGGTACATCG  
AGAAGTTGAC GCCTCTGCCG GAGTGGATGT TACTGAAAGA GTAAGAGGGA CCCATGTAGC  
+3 D F T A D Q V D L T S A L T K K I T L K Y  
181 ACTTCACTGC AGACCAGGTG GACCTGACTT CTGCTCTGAC CAAGAAAATC ACTCTTAAGA  
TGAAGTGACG TCTGGTCCAC CTGGACTGAA GACGAGACTG GTTCTTTTAG TGAGAATTCT  
+3 T P L V S S P M D T V T E A G M A I A M A  
241 CCCCCTGGT TTCCTCTCCC ATGGACACAG TCACAGAGGC TGGGATGGCC ATAGCAATGG  
GGGGTGACCA AAGGAGAGGG TACCTGTGTC AGTGTCTCCG ACCCTACCGG TATCGTTACC  
+3 A L T G G I G F I H H N C T P E F Q A N E  
301 CGCTTACAGG CGGTATTGGC TTCATCCACC ACAACTGTAC ACCTGAATTC CAGGCCAATG  
CGGAATGTCC GCCATAACCG AAGTAGGTGG TGTGACATG TGGACTTAAG GTCCGGTTAC  
+3 E V R K V K K Y E Q G F I T D P V V L S P  
361 AAGTTCGAA AGTGAAGAA TATGAACAGG GATTCATCAC AGACCCTGTG GTCCTCAGCC  
TTCAAGCCTT TCACTTCTTT ATACTGTGCC CTAAGTAGTG TCTGGGACAC CAGGAGTCGG  
+3 P K D R V R D V F E A K A R H G F C G I P  
421 CCAAGGATCG CGTGCGGGAT GTTTTTGAGG CCAAGGCCCG GCATGGTTTC TCGGGTATCC  
GGTTCCCTAGC GCACGCCCTA CAAAACTCC GGTTCGGGGC CGTACCAAAG ACGCCATAGG  
+3 P I T D T G R M G S R L V G I I S S R D I  
481 CAATCACAGA CACAGGCCGG ATGGGGAGCC GCTTGCTGGG CATCATCTCC TCCAGGGACA  
GTTAGTGTCT GTGTCCGGCC TACCCCTCGG CGAACCACCC GTAGTAGAGG AGGTCCCTGT  
+3 I D F L K E E E H D C F L E E I M T K R E  
541 TTGATTTTCT CAAAGAGGAG GAACATGACT GTTTCTTGA AGAGATAATG ACAAAGAGGG  
AACTAAAAGA GTTTCTCCTC CTTGTACTGA CAAAGAACCT TCTCTATTAC TGTTTCTCCC  
+3 E D L V V A P A G I T L K E A N E I L Q R  
601 AAGACTTGGT GGTAGCCCTT GCAGGCATCA CACTGAAGGA GGCAAATGAA ATTCTGCAGC  
TTCTGAACCA CCATCGGGGA CGTCCGTAGT GTGACTTCCT CCGTTTACTT TAAGACGTCG  
+3 R S K K G K L P I V N E D D E L V A I I A  
661 GCAGCAAGAA CGGAAAGTTG CCCATTGTAA ATGAAGATGA TGAGCTTGTG GCCATCATTG  
CGTCGTTCTT CCCTTTCAAC GGGTAACATT TACTTCTACT ACTCGAACAC CGGTAGTAAC  
+3 A R T D L K K N R D Y P L A S K D A K K Q  
721 CCGGACAGA CCTGAAGAAC AATCGGACT ACCCACTAGC CTCCAAAGAT GCGAAGAAAC  
GGGCCTGTCT GGACTTCTTC TTAGCCCTGA TGGGTGATCG GAGGTTTCTA CGGTTCTTTG  
+3 Q L L C G A A I G T H E D D K Y R L D L L  
781 AGCTGCTGTG TGGGGCAGCC ATTGGCACTC ATGAGGATGA CAAGTATAGG CTGGACTTGC  
TCGACGACAC ACCCGTCGG TAACCGTGAG TACTCCTACT GTTCATATCC GACCTGAACG  
+3 L A Q A G V D V V V L D S S Q G N S I F Q  
841 TCGCCAGGC TGGTGTGGAT GTAGTGGTTT TGGACTCTTC CCAGGGAAAT TCCATCTTCC  
AGCGGGTCCG ACCACACCTA CATCACAAA ACCTGAGAAG GGTCCCTTTA AGGTAGAAGG  
+3 Q I N M I K Y I K D K Y P N L Q V I G G N  
901 AGATCAATAT GATCAAGTAC ATCAAAGACA AATACCCTAA TCTCCAAGTC ATTGGAGGCA  
TCTAGTTATA CTAGTTCATG TAGTTTCTGT TTATGGGATT AGAGGTTGAG TAACCTCCGT

FIG 1A

SELECTION SYSTEMS FOR GENETICALLY  
MODIFIED CELLS

DOCKET NO. 24751-2502

Applicant: Jensen

Filed: April 30, 2001

+3 . N V V T A A Q A K N L I D A G V D A L R V  
961 ATGTGGTCAC TGCTGCCCAG GCCAAGAACC TCATTGATGC AGGTGTGGAT GCCCTGCGGG  
TACACCACTG ACGACGGGTC CGGTTCTTGG AGTAACTACC TCCACACCTA CGGGACGCCC  
+3 . V G M G S G S I C I I Q E V L A C G R P Q  
1021 TGGGCATGGG AAGTGGCTCC ATCTGCATTA TCCAGGAAGT GCTGGCCTGT GGGCGGCCCC  
ACCCGTACCC TTCACCGAGG TAGACGTAAT AGGTCCTTCA CGACCGGACA CCCGCCGGGG  
+3 . Q A T A V Y K V Y E Y A R R F G V P V I A  
1081 AAGCAACAGC AGTGTAACAAG GTGTATGAGT ATGCACGGCG CTTTGGTGT T CCGGTCATTG  
TTCGTTGTCG TCACATGTTT CACATACTCA TACGTGCCGC GAAACCACAA GGCCAGTAAC  
+3 . A D G G I Q N V G H I A K A L A L G A S T  
1141 CTGATGGAGG AATCCAAAT GTGGGTCATA TTGCGAAAGC CTTGGCCCTT GGGGCTCCA  
GACTACCTCC TTAGGTTTTA CACCCAGTAT AACGCTTTCG GAACCGGGA CCCCGAGGT  
+3 . T V M M G S L L A A T T E A P G E Y F F S  
1201 CAGTCATGAT GGGCTCTCTC CTGGCTGCCA CCACTGAGGC CCCTGGTGAA TACTTCTTTT  
GTCAGTACTA CCCGAGAGAG GACCGACGGT GGTGACTCCG GGGACCACTT ATGAAGAAAA  
+3 . S D G I R L K K Y R G M G S L D A M D K H  
1261 CCGATGGGAT CCGGCTAAAG AAATATCGCG GTATGGGTTT TCTCGATGCC ATGGACAAGC  
GGCTACCCTA GGCCGATTTT TTTATAGCGC CATAACCAAG AGAGCTACGG TACCTGTTTCG  
+3 . H L S S Q N R Y F S E A D K I K V A Q G V  
1321 ACCTCAGCAG CCAGAACAGA TATTTTCAGT AAGCTGACAA AATCAAAGTG GCCCAGGGAG  
TGGAGTCGTC GGTCTTGTCT ATAAAGTCAC TTCGACTGTT TTAGTTTCAC CGGGTCCCTC  
+3 . V S G A V Q D K G S I H K F V P Y L I A G  
1381 TGTCTGGTGC TGTGCAGGAC AAAGGGTCAA TCCACAAATT TGTCCTTAC CTGATTGCTG  
ACAGACCACG ACACGTCCTG TTTCCCAGTT AGGTGTTTAA ACAGGGAATG GACTAACGAC  
+3 . G I Q H S C Q D I G A K S L T Q V R A M M  
1441 GCATCCAACA CTCATGCCAG GACATTGGTG CCAAGAGCTT GACCCAAGTC CGAGCCATGA  
CGTAGGTTGT GAGTACGGTC CTGTAACCAC GGTTCTCGAA CTGGGTTTCAG GCTCGGTACT  
+3 . M Y S G E L K F E K R T S S A Q V E G G V  
1501 TGTACTCTGG GGAGCTTAAG TTTGAGAAGA GAACGTCCTC AGCCCAGGTG GAAGGTGGCG  
ACATGAGACC CCTCGAATTC AAACCTTTCT CTTGCAGGAG TCGGGTCCAC CTTCCACCGC  
+3 . V H S L H S Y E K R L F  
1561 TCCATAGCCT CCATTCGTAT GAGAAGCGGC TTTTCTGATC TAGCTCGACA TGATAAGATA  
AGGTATCGGA GGTAAGCATA CTCTTCGCCG AAAAGACTAG ATCGAGCTGT ACTATTCTAT  
1621 CATTGATGAG TTTGGACAAA CCACAACCTAG AATGCAGTGA AAAAAATGCT TTATTTGTGA  
GTAACACTC AAACCTGTTT GGTGTTGATC TTACGTCAC TTTTTCACGA AATAAACACT  
1681 AATTTGTGAT GCTATTGCTT TATTTGTGAA ATTTGTGATG CTATTGCTTT ATTTGTAACC  
TTAAACACTA CGATAACGAA ATAAACACTT TAAACACTAC GATAACGAAA TAAACATTGG  
1741 ATTATAAGCT GCAATAAACA AGTTAAACAAC AACAAATGCA TTCATTTTAT GTTTCAGGTT  
TAATATTCTGA CGTTATTTGT TCAATTGTTG TTGTTAACGT AAGTAAAATA CAAAGTCCAA  
1801 CAGGGGGAGG TGTGGGAGGT TTTTAAAGC AAGTAAAACC TCTACAAATG TGGTAGATCA  
GTCCCCCTCC ACACCCTCCA AAAAATTTTCG TTCATTTTGG AGATGTTTAC ACCATCTAGT  
1861 TTAAATGTT AGCGAAGAAC ATGTGAGCAA AAGGCCAGCA AAAGGCCAGG AACCGTAAAA  
AAATTTACAA TCGCTTCTTG TACACTCGTT TTCCGGTCGT TTTCCGGTCC TTGGCATTTT  
1921 AGGCCGCGTT GCTGGCGTTT TTCCATAGGC TCCGCCCCC TGACGAGCAT CACAAAAATC  
TCCGGCGCAA CGACCGCAA AAGGTATCCG AGGCCGGGGG ACTGCTCGTA GTGTTTTTAG  
1981 GACGCTCAAG TCAGAGGTGG CGAAACCCGA CAGGACTATA AAGATACCAG GCGTTTCCCC  
CTGCGAGTTC AGTCTCCACC GCTTTGGGCT GTCCTGATAT TTCTATGGTC CGCAAAGGGG

FIG 1B

**SELECTION SYSTEMS FOR GENETICALLY  
MODIFIED CELLS**

DOCKET NO. 24751-2502

Applicant: Jensen

Filed: April 30, 2001

2041 CTGGAAGCTC CCTCGTGCGC TCTCCTGTTT CGACCCTGCC GCTTACCGGA TACCTGTCCG  
GACCTTCGAG GGAGCACGCG AGAGGACAAG GCTGGGACCG CGAATGGCCT ATGGACAGGC

2101 CCTTTCTCCC TTCGGGAAGC GTGGCGCTTT CTCAATGCTC ACGCTGTAGG TATCTCAGTT  
GGAAAGAGGG AAGCCCTTCG CACCGCGAAA GAGTTACGAG TCGGACATCC ATAGAGTCAA

2161 CCGTGTAGGT CGTTCGCTCC AAGCTGGGCT GTGTGCACGA ACCCCCCGTT CAGCCCCGACC  
GCCACATCCA GCAAGCGAGG TTCGACCCGA CACACGTGCT TGGGGGGCAA GTCGGGCTGG

2221 GCTGCGCCTT ATCCGGTAAC TATCGTCTTG AGTCCAACCC GGTAAGACAC GACTTATCGC  
CGACGCGGAA TAGGCCATTG ATAGCAGAAC TCAGGTGGG CCATTCTGTG CTGAATAGCG

2281 CACTGGCAGC AGCCACTGGT AACAGGATTA GCAGAGCGAG GTATGTAGGC GGTGCTACAG  
GTGACCGTCG TCGGTGACCA TTGTCTAAT CGTCTCGCTC CATACTCCG CCACGATGTC

2341 AGTTCTTGAA GTGGTGGCCT AACTACGGCT ACACTAGAAG AACAGTATTT GGTATCTGCG  
TCAAGAACTT CACCACCGGA TTGATGCCGA TGTGATCTTC TTGTCATAAA CCATAGACGC

2401 CTCTGCTGAA GCCAGTTACC TTCGGAAAAA GAGTTGGTAG CTCTTGATCC GGCAAAACAAA  
GAGACGACTT CGGTCAATGG AAGCCTTTTT CTCAACCATC GAGAAGTAGG CCGTTTGTGT

2461 CCACCGCTGG TAGCGGTGGT TTTTTTGTGT GCAAGCAGCA GATTACGCGC AGAAAAAAG  
GGTGGCGACC ATCGCCACCA AAAAAACAAA CGTTCGTCTG CTAATGCGCG TCTTTTTTTC

2521 GATCTCAAGA AGATCCTTTG ATCTTTTCTA CGGGGTCTGA CGCTCAGTGG AACGAAACT  
CTAGAGTTCT TCTAGGAAAC TAGAAAAGAT GCGGAGTACC TTGCTTTTGA

2581 CACGTTAAGG GATTTTGGTC ATGGCTAGTT AATTAAGCTG CAATAAACAA TCATTATTTT  
GTGCAATTCC CTAAAACAG TACCGATCAA TTAATTCGAC GTTATTTGTT AGTAATAAAA

2641 CATTGGATCT GTGTGTTGGT TTTTGTGTG GGCTTGGGGG AGGGGGAGGC CAGAATGACT  
GTAACCTAGA CACACAACCA AAAAAACAC CCGAACCCCT TCCCCCTCCG GTCTTACTGA

2701 CCAAGAGCTA CAGGAAGGCA GGTGAGAGAC CCCACTGGAC AAACAGTGGC TGGACTCTGC  
GGTTCTCGAT GTCCTTCCGT CCAGTCTCTG GGGTGACCTG TTTGTCACCG ACCTGAGACG

2761 ACCATAACAC ACAATCAACA GGGGAGTGAG CTGGATCGAG CTAGAGTCCG TTACATAACT  
TGGTATTGTG TGTTAGTTGT CCCCTCACTC GACCTAGCTC GATCTCAGGC AATGTATTGA

2821 TACGGTAAAT GGCCCGCCTG GCTGACCGCC CAACGACCCC CGCCCATGTA CGTCAATAAT  
ATGCCATTTA CCGGGCGGAC CGACTGGCGG GTTGCTGGGG GCGGGTAACT GCAGTTATTA

2881 GACGTATGTT CCCATAGTAA CGCCAATAGG GACTTTCCAT TGACGTCAAT GGGTGGAGTA  
CTGCATACAA GGGTATCATT GCGGTTATCC CTGAAAGGTA ACTGCAGTTA CCCACCTCAT

2941 TTTACGGTAA ACTGCCCACT TGGCAGTACA TCAAGTGAT CATATGCCAA GTACGCCCCC  
AAATGCCATT TGACGGGTGA ACCGTCATGT AGTTCACATA GTATACGGTT CATGCGGGGG

3001 TATTGACGTC AATGACGGTA AATGGCCCGC CTGGCATTAT GCCCAGTACA TGACCTTATG  
ATAACTGCAG TTAGTGCCAT TTACCGGGCG GACCGTAATA CCGGTCATGT ACTGGAATAC

3061 GGACTTTCCT ACTTGGCAGT ACATCTACGT ATTAGTCATC GCTATTACCA TGGTGTATGCG  
CCTGAAAGGA TGAACCGTCA TGTAGATGCA TAATCAGTAG CGATAATGGT ACCACTACGC

3121 GTTTTGGCAG TACATCAATG GCGGTGGATA GCGGTTTGAC TCACGGGGAT TTCCAAGTCT  
CAAAACCGTC ATGTAGTTAC CCGCACCTAT CGCCAAACTG AGTGCCCTA AAGGTTGAGA

3181 CCACCCCATT GACGTCAATG GGAGTTTGTT TTGGCACCAA AATCAACGGG ACTTTCCAAA  
GGTGGGGTAA CTGCAGTTAC CCTCAAACAA AACCGTGCTT TTAGTTGCCC TGAAAGGTTT

3241 ATGTCGTAAC AACTCCGCCC CATTGACGCA AATGGGCGGT AGGCGGTGAC GGTGGGAGGT  
TACAGCATTG TTGAGGCGGG GTAACGTGCT TTACCCGCCA TCCGCACATG CCACCCCTCCA

3301 CTATATAAGC AGAGCTCGTT TAGTGAACCG TCAGATCGCC TGGAGACGCC ATCCACGCTG  
GATATATTCG TCTCGAGCAA ATCACTTGGC AGTCTAGCGG ACCTCTGCGG TAGGTGCGAC

3361 TTTTGACCTC CATAGAAGAC ACCGGGACCG ATCCAGCCTC CGCGGCCGGG AACGGTGCAT  
AAAACGAGG GTATCTTCTG TGGCCCTGGC TAGGTCGGAG GCGCGGCCCC TTGCCACGTA

FIG 1C

SELECTION SYSTEMS FOR GENETICALLY  
MODIFIED CELLS

DOCKET NO. 24751-2502

Applicant: Jensen

Filed: April 30, 2001

3421 TGGAAACGCGG ATTCCCCGTG CCAAGAGTGA CGTAAGTACC GCCTATAGAG TCTATAGGCC  
ACCTTGCGCC TAAGGGGCAC GGTTCCTACT GCATTCATGG CGGATATCTC AGATATCCGG

3481 CACCCCTTG GCTTCTTATG CATGCTATAC TGTTTTGGC TTGGGGTCTA TACACCCCGG  
GTGGGGGAAC CGAAGAATAC GTACGATATG AAAAAACCG AACCCAGAT ATGTGGGGGC

3541 CTTCTCATG TTATAGGTGA TGGTATAGCT TAGCCTATAG GTGTGGGTTA TTGACCATTA  
GAAGGAGTAC AATATCCACT ACCATATCGA ATCGGATATC CACACCCAAT AACTGGTAAT

3601 TTGACCACTC CCCTATTGGT GACGATACTT TCCATTACTA ATCCATAACA TGGCTCTTTG  
AACTGCTGAG GGGATAACCA CTGCTATGAA AGGTAATGAT TAGGTATTGT ACCGAGAAAC

3661 CCACAACCTC CTTTATTGGC TATATGCCAA TACACTGTCC TTCAGAGACT GACACGGACT  
GGTGTGAGA GAAATAACCG ATATACGGTT ATGTGACAGG AAGTCTCTGA CTGTGCCTGA

3721 CTGTATTTTT ACAGGATGGG GTCTCATTTA TTATTTACAA ATTCACATAT ACAACACCAC  
GACATAAAAA TGTCCTACCC CAGAGTAAAT AATAAATGTT TAAGTGTATA TGTTGTGGTG

3781 CGTCCCCAGT GCCCGCAGTT TTTATTAAAC ATAACGTGGG ATCTCCACGC GAATCTCGGG  
GCAGGGGTCA CGGGCGTCAA AAATAATTTG TATTGCACCC TAGAGGTGCG CTTAGAGCCC

3841 TACGTGTTCC GGACATGGGC TCTTCTCCGG TAGCGGCGGA GCTTCTACAT CCGAGCCCTG  
ATGCACAAGG CCTGTACCCG AGAAGAGGCC ATCGCCGCCT CGAAGATGTA GGCTCGGGAC

3901 CTCCCATGCC TCCAGCGACT CATGGTCGCT CGGCAGCTCC TTGCTCCTAA CAGTGGAGGC  
GAGGGTACGG AGGTCGCTGA GTACCAGCGA GCCGTCGAGG AACGAGGATT GTCACCTCCG

3961 CAGACTTAGG CACAGCACGA TGCCCAACAC CACCAAGTGT CCGCACAAGG CCGTGGCGGT  
GTCTGAATCC GTGTCGTGCT ACGGGTGGTG GTGGTCACAC GGCGTGTTC GGCACGCCCA

4021 AGGGTATGTG TCTGAAAATG AGCTCGGGGA GCGGGCTTGC ACCGCTGACG CATTTGGAAG  
TCCCATAACAG AGACTTTTAC TCGAGCCCTT CGCCCGAACG TGGCGACTGC GTAAACCTTC

4081 ACTTAAGGCA GCGGCAGAAG AAGATGCAGG CAGCTGAGTT GTTGTGTTCT GATAAGAGTC  
TGAATTCCGT CGCCGTCTTC TTCTACGTCC GTCGACTCAA CAACACAAGA CTATTCTCAG

4141 AGAGGTAAC TCCGTTGCGG TGCTGTTAAC GGTGGAGGGC AGTGTAGTCT GAGCAGTACT  
TCTCCATTGA GGGCAACGCC ACGACAATTG CCACCTCCCG TCACATCAGA CTCGTCATGA

4201 CGTTGCTGCC GCGCGCGCCA CCAGACATAA TAGCTGACAG ACTAACAGAC TGTTCTTTTC  
GCAACGACGG CCGCGCGCGT GGTCTGTATT ATCGACTGTC TGATTGTCTG ACAAGGAAAG

MCS

4261 CATGGGTCTT TTCTGCAGTC ACCCGGGGGA TCCTTCGAAC GTAGCTCTAG ATTGAGTCGA  
GTACCCAGAA AAGACGTCAG TGGGCCCCCT AGGAAGCTTG CATCGAGATC TAACTCAGCT

4321 CGTTACTGGC CGAAGCCGCT TGGGAATAAG CCGGTGTGCG TTTGTCTATA TGTTATTTTC  
GCAATGACCG GCTTCGGCGA ACCTTATTCC GGCCACACGC AAACAGATAT ACAATAAAAG

4381 CACCATATTG CCGTCTTTTG GCAATGTGAG GGCCCGGAAA CCTGGCCCTG TCTTCTTGAC  
GTGGTATAAC GGCAGAAAAC CGTTACACTC CCGGGCCTTT GGACCGGGAC AGAAGAACTG

4441 GAGCATTCCT AGGGGTCTTT CCCCTCTCGC CAAAGGAATG CAAGGTCTGT TGAATGTCGT  
CTCGTAAGGA TCCCCAGAAA GGGGAGAGCG GTTTCCTTAC GTTCCAGACA ACTTACAGCA

4501 GAAGGAAGCA GTTCCTCTGG AAGCTCTTTG AAGACAAACA ACGTCTGTAG CGACCCCTTG  
CTTCTTCGT CAAGGAGACC TTCGAAGAAC TTCTGTTTGT TGCAGACATC GCTGGGAAAC

4561 CAGGCAGCGG AACCCCCAC CTGGCGACAG GTGCCTCTGC GGCCAAAAGC CACGTGTATA  
GTCCGTGCGC TTGGGGGGTG GACCGCTGTC CACGGAGACG CCGGTTTTTC GTGCACATAT

4621 AGATACACCT GCAAAGGCGG CACAACCCCA GTGCCACGTT GTGAGTTGGA TAGTTGTGGA  
TCTATGTGGA CQTTCGCGC GTGTTGGGGT CACGGTGCAA CACTCAACCT ATCAACACCT

4681 AAGAGTCAAA TGGCTCTCCT CAAGCGTATT CAACAAGGGG CTGAAGGATG CCCAGAAGGT  
TTCTCAGTTT ACCGAGAGGA GTTCGCATAA GTTGTTCCTT GACTTCCTAC GGGTCTTCCA

4741 ACCCCATTGT ATGGGATCTG ATCTGGGGCC TCGGTGCACA TGCTTTACAT GTGTTTAGTC  
TGGGGTAACA TACCCTAGAC TAGACCCCGG AGCCACGTGT ACGAAATGTA CACAAATCAG

FIG 1D

SELECTION SYSTEMS FOR GENETICALLY  
MODIFIED CELLS

DOCKET NO. 24751-2502

Applicant: Jensen

Filed: April 30, 2001

4801 GAGGTTAAAA AAACGTCTAG GCCCCCGGAA CCACGGGGAC GTGGTTTTCC TTTGAAAAAC  
 CTCCAATTTT TTTGCAGATC CGGGGGGCTT GGTGCCCCCTG CACCAAAAGG AAACTTTTTG  
 4861 ACGATAATAC CATGGGTAAG TGATATCTAC TAGTTGTGAC CGGCGCCTAG TGTTGACAAT  
 TGCTATTATG GTACCCATTG ACTATAGATG ATCAACACTG GCCGCGGATC ACAACTGTGA  
 4921 TAATCATCGG CATAGTATAT CGGCATAGTA TAATACGACT CACTATAGGA GGGCCACCAT  
 ATTAGTAGCC GTATCATATA GCCGTATCAT ATTATGCTGA GTGATATCCT CCCGCTGGTA  
 4981 GTCGACTACT AACCTTCTTC TCTTTCCTAC AGCTGAGATC ACCGGTAGGA GGGCCATCAT  
 CAGCTGATGA TTGGAAGAAG AGAAAGGATG TCGACTCTAG TGGCCATCCT CCCGCTAGTA  
 5041 GAAAAAGCCT GAACCTACCG CGACGTCTGT CGCGAAGTTT CTGATCGAAA AGTTCGACAG  
 CTTTTTCGGA CTTGAGTGGC GCTGCAGACA GCGCTTCAAA GACTAGCTTT TCAAGCTGTC  
 5101 CGTCTCCGAC CTGATGCAGC TCTCGGAGGG CGAAGAATCT CGTGCTTTCA GCTTCGATGT  
 GCAGAGGCTG GACTACGTCG AGAGCCTCCC GCTTCTTAGA GCACGAAAGT CGAAGCTACA  
 5161 AGGAGGGCGT GGATATGTCC TCGGGGTAAA TAGCTGCGCC GATGGTTTTCT ACAAAGATCG  
 TCCTCCCGCA CCTATACAGG ACGCCCATTT ATCGACGCGG CTACCAAAGA TGTTCCTAGC  
 5221 TTATGTTTAT CGGCACTTTG CATCGGCGCG GCTCCCGATT CCGGAAGTGC TTGACATTGG  
 AATACAAATA GCCGTGAAAC GTAGCCGGCG CGAGGGCTAA GGCCTTCACG AACTGTAACC  
 5281 GGAATTCAGC GAGAGCCTGA CCTATTGCAT CTCCCGCCGT GCACAGGGTG TCACGTTGCA  
 CCTTAAGTCG CTCTCGGACT GGATAACGTA GAGGGCGGCA CGTGTCCAC AGTGCAACGT  
 5341 AGACCTGCCT GAAACCGAAC TGCCCGCTGT TCTGCAACCC GTCGCGGAGC TCATGGATGC  
 TCTGGACGGA CTTTGGCTTG ACGGGCGACA AGACGTTGGG CAGCGCCTCG AGTACCTACG  
 5401 GATCGCTGCG GCCGATCTTA GCCAGACGAG CGGGTTTCGGC CCATTCGGAC CGCAAGGAAT  
 CTAGCGACGC CGGCTAGAAT CGGTCTGCTC GCGCAAGCCG GGTAAAGCCTG GCGTTCCTTA  
 5461 CGGTCAATAC ACTACATGGC GTGATTTTCAT ATGCGCGATT GCTGATCCCC ATGTGTATCA  
 GCCAGTTATG TGATGTACCG CACTAAAGTA TACGCGCTAA CGACTAGGGG TACACATAGT  
 5521 CTGGCAAACT GTGATGGACG ACACCGTCAG TGCGTCCGTC GCGCAGGCTC TCGATGAGCT  
 GACCGTTTGA CACTACCTGC TGTGGCAGTC ACCGAGGCAG CGCGTCCGAG AGCTACTCGA  
 5581 GATGCTTTGG GCCGAGGACT GCGCCGAAGT CCGGCACCTC GTGCACGCGG ATTTTCGGCTC  
 CTACGAAACC CGGCTCCTGA CCGGGCTTCA GGCCGTGGAG CACGTGCGCC TAAAGCCGAG  
 5641 CAACAATGTC CTGACGGACA ATGGCCGCAT AACAGCGGTC ATTGACTGGA GCGAGGCGAT  
 GTTGTTACAG GACTGCCTGT TACCGGCGTA TTGTGCGCCAG TAAGTACCT CGCTCCGCTA  
 5701 GTTCGGGGAT TCCCAATACG AGGTCGCCAA CATCTTCTTC TGGAGGCCGT GGTGGCTTG  
 CAAGCCCCCTA AGGGTTATGC TCCAGCGGTT GTAGAAGAAG ACCTCCGGCA CCAACCGAAC  
 5761 TATGGAGCAG CAGACGCGCT ACTTCGAGCG GAGGCATCCG GAGCTTGCAG GATCGCCGCG  
 ATACCTCGTC GTCTGCGCGA TGAAGCTCGC CTCCGTAGGC CTCGAACGTC CTAGCGGCGC  
 5821 GCTCCGGGCG TATATGCTCC GCATTGGTCT TGACCAACTC TATCAGAGCT TGGTTGACGG  
 CGAGGCCCCG ATATACGAGG CGTAACCAGA ACTGGTTGAG ATAGTCTCGA ACCAACTGCC  
 5881 CAATTTTCGAT GATGCAGCTT GGGCGCAGGG TCGATGCGAC GCAATCGTCC GATCCGGAGC  
 GTTAAAGCTA CTACGTCGAA CCCGCGTCCC AGCTACGCTG CGTTAGCAGG CTAGGCTCTG  
 5941 CCGGACTGTC GGGCGTACAC AAATCGCCCC CAGAAGCGCG GCCGTCTGGA CCGATGGCTG  
 GCCCTGACAG CCCGCTATGT TTTAGCGGGC GTCTTCGCGC CGGCAGACCT GGCTACCGAC  
 6001 TGTAGAAGTC GCGTCTGCGT TCGACCAGGC TGCGCGTTCT CCGGGCCATA GCAACCGACG  
 ACATCTTCAG CGCAGACGCA AGCTGGTCCG ACGCGCAAGA GCGCCGGTAT CGTTGGCTGC  
 6061 TACGGCGTTG CGCCCTCGCC GGCAGCAAGA AGCCACGGAA GTCCGCCCCG AGCAGAAAAT  
 ATCCCGCAAC GCGGGAGCGG CCGTCGTTCT TCGGTGCCTT CAGGCGGGCC TCGTCTTTTA  
 6121 GCCCACGCTA CTGCGGGTTT ATATAGACGG TCCCCACGGG ATGGGGAAAA CCACCACCAC  
 CGGGTGCGAT GACGCCCAAA TATATCTGCC AGGGGTGCCC TACCCCTTTT GGTGGTGGTG

FIG 1E

**SELECTION SYSTEMS FOR GENETICALLY  
MODIFIED CELLS**

DOCKET NO. 24751-2502

Applicant: Jensen

Filed: April 30, 2001

6181 GCAACTGCTG GTGGCCCTGG GTTCGCGCGA CGATATCGTC TACGTACCCG AGCCGATGAC  
CGTTGACGAC CACCGGGACC CAAGCGCGCT GCTATAGCAG ATGCATGGGC TCGGCTACTG

6241 TTA CTGCGCG GTGCTGGGGG CTTCCGAGAC AATCGCGAAC ATCTACACCA CACAACACCG  
AATGACCGCC CACGACCCCC GAAGGCTCTG TTAGCGCTTG TAGATGTGGT GTGTTGTGGC

6301 CCTCGACCAG GGTGAGATAT CGGCCGGGGA CGCGGCGGTG GTAATGACAA GCGCCCAGAT  
GGAGCTGGTC CCACTCTATA GCGGGCCCCCT GCGCCGCCAC CATTACTGTT CGCGGGTCTA

6361 AACAAATGGGC ATGCCTTATG CCGTGACCGA CGCCGTCTCTG GCTCCTCATA TCGGGGGGGA  
TTGTTACCCG TACGGAATAC GGCACCTGGCT GCGGCAAGAC CGAGGAGTAT AGCCCCCCT

6421 GGCTGGGAGC TCACATGCCC CGCCCCCGGC CCTCACCTTC ATCTTCGACC GCCATCCCAT  
CCGACCCCTCG AGTGTACGGG GCGGGGGCCG GGAGTGGGAG TAGAAGCTGG CGGTAGGGTA

6481 CGCCGCCCTC CTGTGCTACC CGGCCGCGCG GTACCTTATG GGCAGCATGA CCCCCAGGC  
GCGGCGGGAG GACACGATGG GCGGCGCGCG CATGGAATAC CCGTCGTA CT GGGGGGTCCG

6541 CGTGCTGGCG TTCGTGGCC TCATCCCGCC GACCTTGCCC GGCACCAACA TCGTGCTTGG  
GCACGACCGC AAGCACCGGG AGTAGGGCGG CTGGAACGGG CCGTGGTTGT AGCACGAACC

6601 GGCCCTTCCG GAGGACAGAC ACATCGACCG CCTGGCCAAA CGCCAGCGCC CCGGCGAGCG  
CCGGGAAGGC CTCCTGTCTG TGTAGCTGGC GGACCGGTTT GCGGTCGCGG GGCCGCTCGC

6661 GCTGGACCTG GCTATGCTGG CTGCGATTCTG CCGCGTTTAC GGGCTACTTG CCAATACGGT  
CGACCTGGAC CGATACGACC GACGCTAAGC GCGGCAAATG CCGATGAAC GGTTATGCCA

6721 GCGGTATCTG CAGTGCGGCG GGTGCTGGCG GGAGGACTGG GGACAGCTTT CGGGGACGGC  
CGCCATAGAC GTCACGCCGC CCAGCACCGC CCTCCTGACC CCGTTCGAAA GCCCCCTGCCG

6781 CGTGCCGCCC CAGGGTGCCG AGCCCCAGAG CAACGCGGGC CCACGACCCC ATATCGGGGA  
GCACGGCGGG GTCCCACGGC TCGGGGTCTC GTTGCGCCCCG GGTGCTGGGG TATAGCCCCCT

6841 CACGTTATTT ACCCTGTTTC GGGCCCCCGA GTTGCTGGCC CCAACGGCG ACCTGTATAA  
GTGCAATAAA TGGGACAAAG CCGGGGGGCT CAACGACCGG GGGTTGCCGC TGGACATATT

6901 CGTGTGTTGCC TGGGCCTTGG ACCTCTTGGC CAAACGCCTC CGTTCCATGC ACGTCTTTAT  
GCACAAACGG ACCCGGAACC TGCAGAACCG GTTGCGGAG GCAAGGTACG TGCAGAAATA

6961 CCTGGATTAC GACCAATCGC CCGCCGGCTG CCGGGACGCC CTGCTGCAAC TTACCTCCGG  
GGACCTAATG CTGGTTAGCG GCGGCGCGAC GCGCCTGCGG GACGACGTTG AATGGAGGCC

7021 GATGGTCCAG ACCCACGTCA CCACCCCGG CTCCATACCG ACGATATGCG ACCTGGCGCG  
CTACCAGGTC TGGGTGCACT GGTGGGGGCC GAGGTATGGC TGCTATACGC TGGACCGCGC

7081 CACGTTTGCC CGGGAGATGG GGGAGGCTAA CTGAGTCGAG AATTCGCTAG AGGGCCCTAT  
GTGCAAACGG GCCCTCTACC CCCTCCGATT GACTCAGCTC TTAAGCGATC TCCCGGGATA

7141 TCTATAGTGT CACCTAAATG CTAGAGCTCG CTGATCAGCC TCGACTGTGC CTTCTAGTTG  
AGATATCACA GTGGATTTAC GATCTCGAGC GACTAGTCGG AGCTGACACG GAAGATCAAC

7201 CCAGCCATCT GTTGTGTTGCC CCTCCCCCGT GCCTTCCTTG ACCCTGGAAG GTGCCACTCC  
GGTCGGTAGA CAACAAACGG GGAGGGGGCA CGGAAGGAAC TGGGACCTTC CACGGTGAGG

7261 CACTGTCCTT TCCTAATAAA ATGAGGAAAT TGCATCGCAT TGTCTGAGTA GGTGTCATTC  
GTGACAGGAA AGGATTATTT TACTCCTTTA ACGTAGCGTA ACAGACTCAT CCACAGTAAG

7321 TATTCTGGGG GGTGGGGTGG GGCAGGACAG CAAGGGGGAG GATTGGGAAG ACAATAGCAG  
ATAAGACCCC CCACCCACCC CCGTCTCTGTC GTTCCCCCTC CTAACCCTTC TGTTATCGTC

7381 GCATGCGCAG GGCCCAATTG CTCGAGCGGC CGCAATAAAA TATCTTTATT TTCATTACAT  
CGTACGCGTC CCGGGTTAAC GAGCTCGCCG GCGTTATTTT ATAGAAATAA AAGTAATGTA

7441 CTGTGTGTTG GTTTTTTGTG TGAATCGTAA CTAACATACG CTCTCCATCA AAACAAAACG  
GACACACAAC CAAAAACAC ACTTAGCATT GATTGTATGC GAGAGGTAGT TTTGTTTGC

7501 AAACAAAACA AACTAGCAAA ATAGGCTGTC CCCAGTGCAA GTGCAGGTGC CAGAACATTT  
TTTGTGTTGT TTGATCGTTT TATCCGACAG GGTCACGTT CACGTCCACG GTCTGTAAA

FIG 1F

7561 CTCTATCGAA GGATCTGCGA TCGCTCCGGT GCCCGTCAGT GGGCAGAGCG CACATCGCCC  
GAGATAGCTT CCTAGACGCT AGCGAGGCCA CGGGCAGTCA CCCGTCTCGC GTGTAGCGGG  
7621 ACAGTCCCCG AGAAGTTGGG GGGAGGGGTC GGCAATTGAA CCGGTGCCTA GAGAAGGTGG  
TGTCAGGGGC TCTTCAACCC CCCTCCCCAG CCGTTAACTT GGCCACGGAT CTCTTCCACC  
7681 CGCGGGGTAA ACTGGGAAAG TGATGTCGTG TACTGGCTCC GCCTTTTTCG CGAGGGTGGG  
GCGCCCCATT TGACCCTTTC ACTACAGCAC ATGACCGAGG CGGAAAAAGG GCTCCCCACC  
7741 GGAGAACCGT ATATAAGTGC AGTAGTCGCC GTGAACGTTT TTTTTCGCAA CGGGTTTGCC  
CCTCTTGCCA TATATTCACG TCATCAGCGG CACTTGCAAG AAAAAGCGTT GCCCAAACGG  
7801 GCCAGAACAC AGCTGAAGCT TCGAGGGGCT CGCATCTCTC CTTCACGCGC CCGCCGCCCT  
CGGTCTTGTC TCGACTTCGA AGCTCCCCGA GCGTAGAGAG GAAGTGCGCG GCGGCGGGGA  
7861 ACCTGAGGCC GCCATCCACG CCGGTTGAGT CGCGTTCTGC CGCCTCCCGC CTGTGGTGCC  
TGGACTCCGG CGGTAGGTGC GGCCAACTCA GCGCAAGACG GCGGAGGGCG GACACCACGG  
7921 TCCTGAACTG CGTCCGCCGT CTAGGTAAGT TTAAAGCTCA GGTGAGACC GGGCCTTTGT  
AGGACTTGAC GCAGGCGGCA GATCCATTCA AATTTGAGT CCAGCTCTGG CCCGGAAACA  
7981 CCGGCGCTCC CTTGGAGCCT ACCTAGACTC AGCCGGCTCT CCACGCTTTG CCTGACCCTG  
GGCCGCGAGG GAACCTCGGA TGGATCTGAG TCGGCCGAGA GGTGCGAAAC GGACTGGGAC  
8041 CTTGCTCAAC TCTACGTCTT TGTTTCGTTT TCTGTTCTGC GCCGTTACAG ATCCAAGCTG  
GAACGAGTTG AGATGCAGAA ACAAAGCAAA AGACAAGACG CGGCAATGTC TAGGTTGAC  
8101 TGACCGGCGC CTACGTAAGT GATATCTACT AGATTATCA AAAAGAGTGT TGAATTGTGA  
ACTGGCCGCG GATGCATTCA CTATAGATGA TCTAAATAGT TTTTCTCACA ACTGAACACT  
8161 GCGCTCACAA TTGATACTTA GATTCATCGA GAGGGACACG TCGACTACTA ACCTTCTTCT  
CGCGAGTGTT AACTATGAAT CTAAGTAGCT CTCCCTGTGC AGCTGATGAT TGAAGAAGA  
8221 CTTTCCTACA GCTGAGAT  
GAAAGGATGT CGACTCTA